

We Claim:

1. A graphics system, including:

an embedded frame buffer; and

a copy pipeline which transfers data from the embedded frame buffer to an external image storage location;

wherein the copy pipeline converts the data from one format to another format prior to writing the data to the external image storage location.

2. The graphics system of claim 1, wherein the external location is a main memory of the graphics system.

3. The graphics system of claim 1, wherein the copy pipeline is operable to selectively transfer the data to either a display buffer or a texture buffer.

4. The graphics system of claim 3, wherein the copy pipeline converts the data to a display format if the data is transferred to the display buffer and a texture format if the data is transferred to the texture buffer.

5. The graphics system of claim 3, wherein the graphics system further includes a graphics pipeline, wherein the graphics pipeline is operable to use the data in the texture buffer during a rendering process.

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1 6. The graphics system of claim 1, wherein the copy pipeline selectively
2 reads data from the embedded frame buffer in RGB color format or YUV color
3 format.

1 7. The graphics system of claim 6, wherein the copy pipeline converts the
2 data from the embedded frame buffer to either a display format or a texture format.

1 8. The graphics system of claim 7, wherein, when the data is converted to a
2 display format, the copy pipeline writes the data to a display buffer, and when the
3 data is converted to texture format, the copy pipeline writes the data to a texture
4 buffer.

1 9. The graphics system of claim 8, wherein the display buffer and the
2 texture buffer are located in a main memory of the graphics system.

1 10. The graphics system of claim 6, wherein the graphics pipeline
2 selectively converts the data read from the embedded frame buffer to a YUV color
3 format or an RGB color format.

1 11. The graphic system of claim 10, wherein the graphics pipeline converts
2 the data to a YUV format if the data is intended for display.

1 12. A method of transferring data from a graphics chip to an external image
2 storage destination, including:

3 storing image data in an embedded frame buffer of the graphics chip;

4 initiating a copy out operation for transferring data from the embedded
5 frame buffer to the external image storage destination;

6 converting the data from one format to another format during the copy out
7 operation; and

8 writing the converted data to the external image storage destination.

1 13. The method of claim 12, wherein the converting step converts the data
2 from RGB color format to YUV color format.

1 14. The method of claim 12, wherein the converting step includes
2 converting the data from YUV color format to RGB color format.

1 15. The method of claim 12, wherein the converting step includes
2 converting the data to a texture format, and the writing step includes writing the
3 texture format data to a texture buffer.

1 16. The method of claim 12 wherein the converting step includes
2 converting the data to a display format, and the writing step includes writing the
3 display format data to a display buffer.

1 17. The method of claim 16 wherein the display format is a YUV 4:2:2
2 format.

1 18. The method of claim 12 wherein the writing step includes selectively
2 writing the data to either a display buffer or a texture buffer in a main memory of
3 the graphics system.

1 19. The method of claim 12, further including performing a scaling
2 operation on the data prior to writing the data to the external image storage
3 destination.

1 20. The method of claim 12, further including performing a gamma
2 correction operation on the data prior to writing the data to the external image
3 storage destination.

1 21. The method of claim 12, further including performing an anti-aliasing
2 operation on the data prior to writing the data to the external image storage
3 destination.

1 22. The method of claim 12 further including performing a de-flickering
2 operation on the data prior to writing the data to the external image storage
3 location.

1 23. The method of claim 12, wherein the converting step includes
2 performing at least one of the following conversions:

- 3 - RGB color format to another RGB color format;
- 4 - YUV color format to another YUV color format;
- 5 - RGB color format to YUV color format; and
- 6 - YUV color format to RGB color format.